CENTRAL STATES FOREST EXPERIMENT STATION

FOREST UTILIZATION SERVICE

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Defense Activities.--Pressure on FUS for defense surveys lightened materially during the quarter. Day spent approximately one week on cleaning up the equipment-manpower survey field work. He also has handled three or four tax amortization applications for pulp and paper companies in Ohio.

Log Grading Demonstrations.--Two demonstrations in log grading were sponsored during the quarter. The first at Lake Hope, Ohio and the second at Pineville, Kentucky. The Lake Hope demonstration was held primarily for survey personnel at the Station but other divisions and work centers participated. We also had twelve foresters from other organizations, including the Ohio Division of Forestry, the Ohio Agricultural Experiment Station and the University of Southern Illinois and the Baker Wood Preserving Company of McArthur, Ohio. Charlie Lockard of the FUS unit in Upper Darby and A. C. Wollin of the FPL handled the instruction work. Late in August the second demonstration was given for the benefit of forestry personnel of the Kentucky Forest Service. Others who participated included two from the University of Kentucky, two from the SCS, one from TVA and two industrial foresters from the Blue Grass Cooperage Company and the Chester B. Stem Veneer Company. This demonstration was held in connection with a week-long training program initiating the new farm forestry program in Kentucky. Roswell Carpenter of the FUS unit in New Orleans handled the instruction at this course.

Wood Waste Utilization.--As we have reported earlier, the Baker Wood Preserving Company of McArthur, Ohio, has been working on the utilization of hardwood bark as a poultry litter. Studies carried on in cooperation with the Ohio Agricultural Experiment Sta. and the Batelle Institute have proven it to be superior in many respects to straw, sawdust and other customary types of litter. The company now plans on introducing this product here in Ohio and possibly surrounding states on a trial basis. The bark is a by-product of their rapidly expanding metallurgical wood chip business. Wood waste from their lumber and tie plug plants is run through a pulpwood chipper and carried to a hopper bottom gondola car suspended forty or so feet above a siding. By an air flotation process and a series of screens most of the bark is separated out for further processing and the chips allowed to fall

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Corps of Engineers, it is probable that the detection job can be improved to a degree that will permit not more than one 30-caliber bullet to pass by to the head saw per 10 MBF of woods-run logs harvested. These escapees will generally be deeper than 6 inches from the bark surface, which is the limit of detectability for this 30-caliber "weak-signal" bullet.

Initial trials of chopping out metal wherever it was detected showed most of it to be much less deeply imbedded than one would expect considering its origin and the relative softness of the timber--mostly loblolly pine. Some bullets had lodged in the wood to a depth of only 1/3 or 1/2 their length. New diameter growth had generally enveloped such bullets but their bases were still close to the bark and in a few cases still visible at the outer bark surface. Most of the latter escaped visual detection, however, until spotted by the search head. Around 90 percent of the metal was no deeper than 4 inches, 8 percent 5 to 6 inches, and 2 percent deeper than 6 inches. About 95 percent of all metal was chopped out. The other 5 percent was eliminated by sawing off entire end sections with a power chain saw. Total loss of merchantable board footage from elimination of metal was less than 2 percent. The trouble with chopping is its slowness relative to the speed of searching that must be maintained on the rollway, and the fact that it has to be done within the limited searching area. For safety, searching must stop while the chopper is in action. It was recommended that notching be done with bow saw and wedge on the big job ahead. The recommended general procedure is to detect and eliminate the metal in the woods since the job can be done at lower cost that way than at the sawmill. Without metal detection, some 5 million board-feet of good saw timber would be wasted in this Army reservation.

Consideration was given to the feasibility of having a stationary ring-type detector made to order, through which logs would be passed lengthwise on a belt conveyor or placed in a pond and floated through. A large detector of this type was installed by GE at Fort Lewis, Washington. But the high cost of such a device, probably $10,000 to $12,000 for one of medium size, rules it out for a total volume of less than about 15 million board-feet. The ring detector cannot automatically do the searching job or remove the metal. At least one man would be required to feed tree lengths or logs through the ring, and another would have to be assigned full time to metal removal.

Field Contacts With Industry.--At the request of the Schantz Organ Company of Orville, Ohio, Day visited their plant and discussed with them a number of problems involved in their proposed expansion as well as questions concerning minor fabrication problems in normal day-by-day operations. Their major concern was the need for a dry kiln; however, considering the relatively small volume of kiln dried lumber required it was decided that custom drying would be

hard maple hammer boards for forging mills and cherry blocks for engravers' plates. The company is looking for ways to increase the life of hammer boards (now averaging about 400 hours),and to stabilize the engravers' blocks. The latter looks like another possible application of staybwood. Both this company and Mosaic Tile would welcome cooperative work at the FPL if anything promising can be offered. Joseph V. Emmons,--requested information about installing a sawmill to cut logs from a tree farm in Ohio. Formerly cutting was done each year by a custom mill which moved into the timber area but this custom operator is no longer available. Quincy Manufacturing Company,-makes patented overhead-type garage doors of flush panels using the stressed-skin principle of plywood glued to light framing members. Guarantees against sagging of wide doors for single-opening double garages. Particularly interested in a gluing problem which has been referred to the FPL. G. S. Stewart Co.,--furniture manufacturer, formerly visited after referral to FUS of a telephone appeal received by the FPL for advice on controlling honey-comb and check in the seasoning of oak lumber. As a result of suggested revisions in practices and use of a kiln schedule prepared for them from the new FPL schedules issued in February 1951, they believe their troubles are licked. American Crayon Company,--operate a rotary veneer mill and make specialty boxes for others as well as all boxes used for their own products. They had sent an inquiry to the FPL in 1950 regarding storage of veneer logs. Species cut are cottonwood, sycamore, soft maple and basswood. Basswood is difficult to procure now, supplies of that species being practically exhausted within economic shipping distance. Some technical reports for the company have been requested from the FPL. They are particularly interested in the transparent plastic safety guide for the veneer cutting table which was developed at the Laboratory. C. G. Conn Co., --have compreg made under cooperative agreement with the FPL for use in clarinets as a substitute for African granadillo. Birch compreg made an excellent instrument but was not liked by big-name musicians because of its light color. Mahogany compreg made at the FPL has been put through company laboratory tests and instruments were sent for trial and comments to some top musicians in late August. What they think about the appearance of mahogany clarinets was not yet known. Schult Corporation,--manufacturers of high-class house trailers which carry retail selling prices up to $4,000. The Chief Engineer requested various kinds of technical information. Present plant production of 4 complete trailers a day is not enough to keep up with demand. They do all their own wood fabricating including bending of plywood for interior fixtures. American Walnut Manufacturers Association, The Veneer Association and The Hardwood Plywood Institute,--approached regarding need for cooperative research and clinics which might be conducted by the FPL. Some problems are being referred to Madison for consideration. At the Veneer Association office, an inquiry was referred to Brundage which had come from a Canadian company seeking two sample car loads of cottonwood veneer waste to use as a binder in acoustic plaster.

Hardwood Log Grading Conference.--Day attended a three-day conference at the Forest Products Laboratory in August to develop a coordinated approach to future work on hardwood log grades. Representatives of all four eastern FUS units, several Regional Offices and the TVA met with the Division of Industrial Investigations of the Lab. Major recommendations emanating from this conference were:

1. Service-wide acceptance of the FPL hardwood log grades as standard

2. Preparation of a service-wide program for future work on commodity grades

3. Current subordination of tree grade studies to the need for further studies on logs and bolts.

Distribution of this progress report

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